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REMARKS

Claims 1-24, as amended, remain herein.

Claims 1 has been amended to recite more clearly applicants' invention, consistent with Fig. 1a; various functions of the relay station are recited.

1. Applicants ask the Examiner to provide an initialed copy of PTO Form 1449 indicating receipt and consideration of references accompanying the Information Disclosure Statement filed November 23, 1999.

2. Applicants also ask the Examiner to provide acknowledgement of applicants' claim for foreign priority under 35 U.S.C. §119, and confirm receipt of certified copies of all priority documents.

3. Claims 1 and 13 were rejected under 35 U.S.C. §102(b) over Okubo U.S. Patent 5,689,355.

The presently claimed transmission apparatus and method for operating such system use a master station for transmitting and

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receiving a signal having slave station address information and master station receiving frequency information; a relay station is located between the master station and a slave station, and the relay station is for:

(1) receiving a first signal (f1) from the master station, modulating the first signal to a different frequency (f2), and transmitting the modulated first signal to the slave station;

(2) receiving from the master station, return frequency information (f0) as part of a first minute-power signal, demodulating a portion of a second minute-power signal received from the slave station, modulating the demodulated portion at the master station return frequency (f0), and transmitting the modulated portion of the second minute-power signal to the master station, thereby establishing a return transmission path between the relay station and the master station; and

(3) transmitting information about a relay station receiving frequency at which the relay station receives a signal from the slave station;

The slave station is for:

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(1) recognizing that a transmission signal is a signal directed to the slave station; and

(2) modulating and transmitting a response signal containing video or audio information at the relay station receiving frequency, thereby establishing a transmission path between the master station and the slave station. This arrangement and corresponding method are nowhere disclosed or suggested in the cited reference.

Okubo '355, Fig. 4, is said to show a radio base station 1, allegedly corresponding to applicants' master station, for transmitting signals to/from repeater 2 containing master device 3, which contains radio frequency stage 31. The Examiner asserts that stage 31 corresponds to applicants' relay station; Fig. 1 showing slave device 4 is asserted to correspond to applicants' slave station, which is cable-connected directly to master device 3.

However, while Okubo '355 uses the term "slave", the alleged correspondence stated in the Office Action, page 3, line 1, that Okubo '355 slave device 4 corresponds to applicants' slave station is contrary to the discussion in Okubo '355,

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column 1, line 37 to column 2, line 51, describing transmission of signals between mobile stations/cellular telephones through slave devices 4 and then conducting such signals to radio frequency stage 31 located in master device 3 of repeater 2 (Fig. 4). Okubo '355, at column 1, lines 50-53, describes slave device 4 directly cabled to master device 3 (see Fig. 1). Column 1, lines 54-67, further describes slave device 4 for communicating with radio frequency stage 31 within master device 3, i.e., for communication directly to the master station. In the presently claimed invention, the slave station communicates to the relay station, which in turn, communicates with the master station. Therefore, Okubo '355 discloses a transmission apparatus that is different, indeed patentably so, from the presently claimed invention.

Moreover, the Okubo '355 slave device 4 is not for (1) recognizing that a transmission signal is a signal directed to the slave device; and (2) modulating and transmitting a response signal having video or audio information at the relay station receiving frequency, thereby establishing a transmission path between the radio base station and the slave device 4, as

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recited in applicants' claims 1 and 13, because no "relay station receiving frequency" is involved. Fig. 1 of the reference shows slave device 4 cabled for direct communication to/from master device 3 with no reference to, or involvement with a separate relay station. Okubo '355, column 1, lines 38-40, describes repeater 2 as including master device 3 and a plurality of slave devices 4.

Accordingly, the Okubo '355 slave device 4 does not correspond to applicants' slave station, but instead operates more as a generic relay station, i.e., passing a transmission originating at a cell phone through itself and on to radio frequency stage 31 in master device 3 by way of cable connections. In fact, Okubo '355 refers to slave device 4 as part of "repeater 2" for repeating/relaying signals.

It is alleged that Okubo '355 radio frequency stage 31 located in master device 3 inside repeater 2 shown in Okubo '355, Fig. 4, corresponds to applicants' relay station, because the stage is located between the radio base 1 and slave device 4, even though stage 31 and slave devices 4 are cable-connected together, identified as a single module called repeater 2, and

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actually perform the single function of repeating signals originating from cellular telephones received by slave devices 4 of repeater 2 and relaying those signals to radio base station 1, as shown in Fig. 4.

However, Okubo '355, column 1, lines 30-67, describing the structure and function of repeater 2 containing stage 31 alleged to correspond to applicants' relay station, describes electro-optical connections for passing signals received from radio base station 1 through radio frequency stage 31 and other components of master device 3 and on to slave devices 4, for subsequent antenna-transmission to/from the cellular telephones. Nowhere in Okubo '355 is there any disclosure or suggestion that repeater 2/stage 31 is used for (1) receiving a first signal (f1) from the radio base station (allegedly corresponding to applicants' master station), modulating the first signal to a different frequency (f2), and transmitting the modulated first signal to the slave device 4 (allegedly corresponding to applicants' slave station), and (2) receiving from the radio base station return frequency information (f0) as part of a first signal, demodulating a portion of a second signal received

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from the slave device 4, modulating the demodulated portion at the radio base station return frequency (f_0), and transmitting the modulated portion of the second signal to the radio base station, thereby establishing a return transmission path between repeater 2/stage 31 and radio base station 1, as recited in applicants' claims 1 see also claim 13. Okubo '355 does not disclose or suggest any such "handshaking" exchange between radio base station 1 and any part of repeater 2 for receiving return frequency information in a first signal from base station 1, acting on such information, and using same to transmit a second signal back to radio station 1, as recited in applicants' claims 1 and 13.

Moreover, Okubo '355 does not disclose or suggest anything about stage 31, alleged to correspond to applicants' relay station, for transmitting information about a stage 31 receiving frequency at which stage 31 receives a signal from the slave device 4, alleged to correspond to applicants' slave station. There is no description in Okubo '355 saying or implying such "handshaking" structure for transmitting such receiving frequency, as recited in applicants' claims.

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Additionally, Okubo '355 does not disclose or suggest that slave device 4, alleged to correspond to applicants slave station, has structure for learning about the stage 31 receiving frequency and then transmitting a response signal at the stage 31 receiving frequency. Nowhere does Okubo '355 disclose or suggest that slave devices 4 receive such receiving frequency and then act on such information by transmitting back to stage 31 at that frequency. In all of these instances, Okubo '355 says nothing about such exchange of frequency information. This lack of disclosure, of course, makes sense because stage 31 and slave devices 4 are wired together as part of one module called repeater 2, and can function without a preliminary exchange of transmission protocols.

Accordingly, it is incorrect to say that Okubo '355 discloses a radio base station 1, allegedly corresponding to applicants' master station, for transmitting signals to/from repeater 2 containing master device 3, which contains radio frequency stage 31, wherein stage 31 allegedly corresponds to applicants' relay station, and slave device 4 allegedly corresponds to applicants' slave station, because Okubo '355

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does not disclose or suggest that any of such devices inter-communicates specifically as recited in applicants' claims 1 and 13.

For the foregoing reasons, Okubo '355 fails to disclose all elements of applicants' claimed invention, and therefore is not a proper basis for rejection under §102. And, there is no disclosure or teaching in Okubo '355 that would have suggested the desirability of modifying any portions thereof effectively to suggest applicants' presently claimed invention. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

4. Claims 3-5, 8, 9, 12, 15-17, 20 and 21 were rejected under 35 U.S.C. §102(b) over Hylton U.S. Patent 5,793,413.

The presently claimed transmission apparatus and method for using same includes a transmitter having an RF converter that generates a standard television transmission signal in a transmission mode; a receiver having an RF tuner for receiving the standard television transmission signal in a reception mode; frequency detection means for detecting available frequencies

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for video transmission, within the reception band of the RF tuner, in advance of use; detected frequency registration means for registering the detected frequencies, as a communication frequency list, in both of the transmitter and the receiver; and spread spectrum communication means for spreading the power spectrum by changing the frequency within the range of the communication frequency list, and performing spread spectrum communication. This arrangement and corresponding method are nowhere disclosed or suggested in the cited reference.

The spread spectrum function mentioned in Hylton '413 is not recited in applicants' claims 5, 8, 9, 15-17, 20 and 21.

Hylton '413, at column 29, lines 14-21, is said to disclose applicants' transmission apparatus including frequency detection means for detecting available frequencies for video transmission, within the reception band of the RF tuner, in advance of use, as recited in applicants' claims 3 and 15. However, Hylton '413 discloses merely that a tuner implements the spread spectrum communication using CDMA, which is not the same as applicants' frequency detection means for detecting available frequencies for video transmission, within the

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reception band of the RF tuner, in advance of use. In fact, Hylton '413, column 29, line 14-16, states that "the output of the tuner 512 is fed to a frequency hopping Code Division Multiple Access (CDMA) spread spectrum transmitter 516." Thus, Hylton '413 discloses mere frequency hopping and not detection of available frequencies, and moreover, discloses such activity after generation of output to be transmitted (i.e., feeding output of tuner 512 into the CDMA transmitter 516), and not in advance of use, i.e., before such feeding of output.

Claims 4, 5, 8 and 9, which depend from claim 3, and claims 16, 17, 20 and 21, which depend from claim 15, are allowable for the same reasons given for the allowance of claims 3 and 15.

Hylton '413, at column 30, lines 4-29, is said to disclose applicants' means for automatically changing transmission power during communication in accordance with the use frequency band width for keeping the power density per unit band width constant. However, the spread spectrum function described by Hylton '413 varies a carrier frequency iteratively according to a predetermined sequence, or modulates a carrier frequency using pseudo noise, and is not the same as applicants' function for

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automatically changing the transmission power during the communication in accordance with the use frequency band width to keep the power density per unit bandwidth constant, as recited in applicants' claim 4.

For the foregoing reasons, Hylton '413 fails to disclose all elements of applicants' claimed invention, and therefore is not a proper basis for rejection under §102. And, there is no disclosure or teaching in Hylton '413 that would have suggested the desirability of modifying any portions thereof effectively to suggest applicants' presently claimed invention. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

5. Claims 2 and 14 were rejected under 35 U.S.C. §103(a) over Okubo '355 and Hattori et al. U.S. Patent 5,719,619.

The presently claimed transmission apparatus and method of claims 1 and 15 call for a master station for transmitting a transmission signal including a standard television signal in the forward path from the master station to the slave station, and a PCM audio signal and the information indicating the

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address of the slave station and the reception frequency specified by the slave station, superposed on a video signal during the vertical blanking period of the video signal, as recited in claims 2 and 14. This arrangement and corresponding method are nowhere disclosed or suggested in the cited reference.

Claim 2, which depends from claim 1, and claim 14, which depends from claim 15, are allowable for the same reasons already given for the allowance of claims 1 and 15.

Moreover, the Examiner admits that Okubo '355 does not disclose applicants' transmission apparatus and method comprising transmitting a control signal by superposing it on the video signal in the blanking period during communication; Hattori '619 is said to teach same. However, while Hattori '619, column 28, lines 40-49 teaches a method of transmitting a "program related information" control signal by superposing it on the video signal in the vertical blanking period, Hattori '619, column 28, lines 50-59, describes such "program related information" control signal as various kinds of signals including question data, evaluation data, selection data or PCM

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audio data, any of which is superposed on the video signal in the vertical blanking period. But, Hattori '619 does not disclose or suggest a method of superposing a signal indicating the frequency of a transmission signal on the transmission signal. This signal information is completely different than any type of signal to be superposed discussed in Hattori '619.

Moreover, while Okubo '355 discloses a method of automatically performing compensation for attenuation of signals that are transmitted through optical cables interconnecting a master device and a plurality of slave devices all located in a repeater for a radio paging system, Okubo '355 does not disclose or suggest a method of superposing a signal indicating the frequency of the transmission signal on the transmission signal.

For the foregoing reasons, neither Okubo '355 nor Hattori '619 contains any teaching, suggestion, reason, motivation or incentive that would have led one of ordinary skill in the art to applicants' claimed invention. Nor is there any disclosure or teaching in either of these references that would have suggested the desirability of combining any portions thereof effectively to suggest applicants' presently claimed invention.

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Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

6. Claims 6, 7 and 19 were rejected under 35 U.S.C. §103(a) Hylton '413, and Hattori '619.

Claims 6 and 7, which depend from claim 3, and claim 19, which depends from claim 15, are allowable for the reasons given previously for the allowance of claims 3 and 15.

It is admitted in the Office Action that Hylton '513 does not disclose a transmission apparatus including audio signal superposition and transmission means for subjecting an audio signal to PCM, and for transmitting the PCM audio signal by superposing the PCM audio signal on the video in the blanking period, during the communication; Hattori '619 is asserted to teach same. Actually, while Hylton '513 discloses transmitting a video signal by use of frequency hopping CDMA, Hattori '619, as already described, does not teach or suggest a method of superposing a signal that indicates the frequency of a transmission signal on the transmission signal.

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For the foregoing reasons, neither Hylton '513 nor Hattori '619 contains any teaching, suggestion, reason, motivation or incentive that would have led one of ordinary skill in the art to applicants' claimed invention. Nor is there any disclosure or teaching in either of these references that would have suggested the desirability of combining any portions thereof effectively to suggest applicants' presently claimed invention. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

7. Claims 10 and 22 were rejected under 35 U.S.C. §103(a) Hylton '413, and Yoshinobu U.S. Patent 5,684,526.

The presently claimed transmission apparatus and method of claims 3 and 15 include a transmission apparatus including ID storage means for storing an identification number (ID) stored in the transmission apparatus during manufacture; and ID inquiry and registration means for performing mutual inquiry of IDs with another transmission apparatus, which is permitted to have communication in advance of use, and registering the ID, as recited in claims 10 and 22. This arrangement and corresponding

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method are nowhere disclosed or suggested in the cited reference.

Claim 10, which depends from claim 3, and claim 22, which depends from claim 15, are allowable for the same reasons that claims 3 and 15 are allowable.

The Examiner admits that Hylton '413 does not disclose the above-described transmission apparatus of claims 10 and 22, and cites Yoshinobu '526 as allegedly teaching same. Actually, Yoshinobu '526 teaches a system and method in which a two-way broadcast program, such as a TV shopping or quiz program, requires a response information transmitting apparatus for transmitting a response information including ID information and apparatus ID. However, contrary to the position advanced by the Examiner the transmission apparatus in Yoshinobu '526 does not implement the ID inquiry and ID registration with another transmission apparatus that is permitted to have communication in advance of use. Furthermore, the system and method of Yoshinobu '526 is not a transmission apparatus, but instead is a television receiver, which cannot transmit signals.

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For the foregoing reasons, Hylton '413 or Yoshinobu '526 contains any teaching, suggestion, reason, motivation or incentive that would have led one of ordinary skill in the art to applicants' claimed invention. Nor is there any disclosure or teaching in either of these references that would have suggested the desirability of combining any portions thereof effectively to suggest applicants' presently claimed invention. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

8. Claims 11, 12, 23 and 24 were rejected under 35 U.S.C. §103(a) Hylton '413, Yoshinobu '526 and Matsuda U.S. Patent 5,794,116.

The presently claimed transmission apparatus and method of claims 3 and 15 include a transmission apparatus with frequency setting means for always executing the reception mode in advance of the transmission mode to detect frequency time tables of all other transmission apparatuses that are performing transmission within a same wave area, and for performing transmission by using a first frequency time table, a use frequency of which is

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always different from the frequencies of the all other transmission apparatuses; and retransmission means for performing retransmission by using a second frequency time table different from the first frequency time table when a transmission signal from another apparatus that has requested communication cannot be detected even when a predetermined period of time has passed after starting the transmission mode. This arrangement and corresponding method are nowhere disclosed or suggested in the cited reference.

Claims 11 and 12, which depend from claim 3, and claims 23 and 24, which depends from claim 15, are allowable for the same reasons that claims 3 and 15 are allowable.

Hylton '413 and Yoshinobu '526 are admitted by the Examiner not to disclose the above-described transmission apparatus of claims 11 and 23; Matsuda '116 is said to show such an apparatus. Matsuda '116 in fact teaches that the base station for control data receives instruction for transmission of video data and a control signal packet, and confirms whether or not there is a video data request and a free channel; if the channel is available, the base station for control data transfers the

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received control signal packet to the video server, and if the channel is unavailable, the base station for control data transmits a control signal including a request for resetting the channel to the wireless video terminal. The wireless video terminal then newly designates another channel in order to acquire the video data.

In contrast, applicants' condition for requesting retransmission recited in claim 11 differs from that of Matsuda '116 because applicants' retransmission is requested when a transmission signal from another apparatus that has requested communication cannot be detected even when a predetermined period of time has passed after starting the transmission mode.

Furthermore, Matsuda '116 does not overcome the deficiencies of Hylton '413 and Yoshinobu '526, which, as described above, do not disclose or suggest ID inquiry and registration means for performing mutual inquiry of ID's with another transmission apparatus that is permitted to communicate in advance of use and registering the ID, as recited in claims 10 and 22, from which claims 11, 12, 23 and 24 respectively depend.

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For the foregoing reasons, none of Hylton '413, Yoshinobu '526 or Matsuda '116 contains any teaching, suggestion, reason, motivation or incentive that would have led one of ordinary skill in the art to applicants' claimed invention. Nor is there any disclosure or teaching in any of these references that would have suggested the desirability of combining any portions thereof effectively to suggest applicants' presently claimed invention. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

All claims 1-24 are now proper in form and patentably distinguished over all grounds of rejection stated in the Office Action. Accordingly, allowance of all claims 1-24 is respectfully requested.

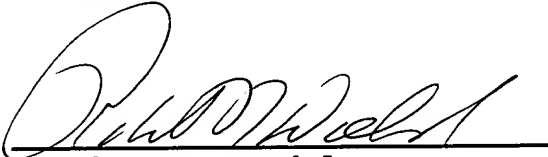
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Should the Examiner deem that any further action by the applicants would be desirable to place this application in even better condition for issue, the Examiner is requested to telephone applicants' undersigned representatives.

Respectfully submitted,

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